

ABSTRACT OF THE DISCLOSURE

The present invention provides orthopedic devices useful in applying tension or compression to biological tissues, and facilitating surgical procedures. Various aspects of the invention include a split-nut fastener, a tension bolt, a suture nut, a pivot wing bolt and a transverse impaction screw.

- 5 Each of these devices reduces surgery time, improves the reliability of the tissue position and simplifies surgical procedures as compared to known devices. The split-nut is used in combination with many implantable fasteners used in orthopedic devices. The split-nut, which has two halves, slides down a threaded rod until a ring surrounding the two halves forces them together. The split-nut is then readily threaded tightly onto the threaded rod. The pivot wing bolt assembly is used to secure one end of a threaded rod into the hollow or marrow of a fractured bone. Together with the split-nut or any other nut, the pivot wing bolt is used to fixate the fractured bone. The suture nut is used to minimize surgery time by avoiding the need to make hand-made knots in a suture being used during the surgery. Together with a suture, the suture nut is particularly useful for closing incisions in tissues. The suture nut grasps the suture where desired, thereby avoiding slippage of the suture after closure of the incision and avoiding the need to make a knot in the suture. The transverse impaction screw is used to increase the contact area between a ligament graft and the surrounding bone when fixating the ligament to a bone. Once the ligament is draped over the screw, the screw is turned in a first direction to impact the ligament onto a surface of a bone to which the ligament will attach during healing.
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